Method of Test For

# DETERMINATION OF THE CONVERSION RATIO OF SOILS

LDH DESIGNATION: TR 425-64

## Scope

1. This method of test is intended for determining a ratio that may be used to convert a volume of compacted soil to the undisturbed (or in situ) volume of the soil, and in particular to determine a ratio that may be used to convert a volume of soil computed from the in-place dimensions of a roadway base course or subbase course to a volume of undisturbed soil in a borrow area.

## Procedure

2. (a) Using Method of Test LDH TR 418, determine the maximum dry unit weight of those several selected soils that will adequately represent the material source. At least one test will be required for each soil type found in the soil profile for this material source. Determine the weighted average of these maximum dry unit weights.

(b) Using Method of Test LDH TR 401, determine the dry unit weight (in-place density) of the undisturbed soil of those several selected soils that will adequately represent the material source. At least one test will be required for each soil type found in the soil profile for this material source. Determine the weighted average of these in-place dry unit weights.

(c) Compute the conversion ratio by the following formula:

$$\text{Conversion Ratio} = \frac{\text{Ave. Max. Dry Unit Weight from (a)}}{\text{Ave. in-place density from (b)}}$$

(d) Convert compacted volume to the undisturbed volume by the following formula:

$$\text{Undisturbed volume} = \text{compacted volume}^{*} \times \text{conv. ratio}$$

Normal Testing time - 4 days

* from in-place dimensions